REMARKS

Claims 1-25 were pending in the Application. Claim 1 is an independent claim and claims 2-16 depend there from. Claim 17 is an independent claim and claims 18-23 depend there from. Claim 24 and 25 are independent claims. Claims 1, 17 and 24 are currently amended. Applicant respectfully requests reconsideration of the application in light of above amendments and the following remarks.

Rejections Under 35 U.S.C. §102(e) - Tillier

Claims 1-5, 10, 16-18, 20, 22 and 23 were rejected under 35 U.S.C. §102(e) as being anticipated by Tillier. (U.S. Patent No. 6,421,742). The Applicant respectfully traverses the rejections for at least the following reasons.

With regard to the anticipation rejections, MPEP 2131 states, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 (Fed.Cir. 1987). MPEP 2131 also states, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Regarding claims 1 and 17, the Applicants respectfully submit that Tillier fails to teach, suggest, or disclose, for example, "wherein a one-shot initiation process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in independent claim 1; and "wherein a one-shot completion process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in independent claim 17.

Tillier is different than Applicant's independent claims 1 and 17 because Tillier discloses "a method of transferring data to or from an input/output unit **across a network** emulates a message passing protocol. **A message sent from a host device to the input/output unit**

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specifies the requested data transfer and is formatted in accordance with the message passing protocol." (Tillier, Abstract). Tillier fails to disclose "a one-shot initiation [completion] process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in Applicant's independent claims 1 and 17. **In fact, nowhere in Tillier is there any disclosure with regard to initiation and completion processes between the driver and the NIC, let alone performing a one-shot initiation and completion process between the driver and the NIC of the host**. Rather, the only mention of a NIC in Tillier states that "a network interface controller (NIC) acts as the communications intermediary between the devices and the network and passes data blocks to and from the network in the speed and manner required by the network." (Tillier, Column 1, Lines 34-37). Acting as an intermediary between the devices and the network as disclosed in Tillier is different than performing a one-shot initiation (completion) process between the driver and the NIC of the host. Because Tillier fails to disclose performing initiation and completion processes between the driver and the NIC of the host, Tillier cannot teach, for example, "wherein a one-shot initiation process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in independent claim 1; and "wherein a one-shot completion process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in independent claim 17.

The Response to Arguments section of the final Office Action states the following:

> The Remote Transport Layer 101-4 of Host 101 in Fig. 1 provides the functionality of a host software driver; a Network Interface Controller (NIC, not shown in Fig. 1, but disclosed in column 1, lines 30-37) teaches the function of a NIC; column 3, lines 35-40 disclose the use of RDMA to transfer data **between a host and I/O device**; column 3, lines 43-51 disclose a one-shot (using a single command initiation, then without subsequent host interruptions until the transfer is completed) initiation [or completion] process of an RDMA operation.

(Final Office Action, Page 19 (emphasis added)). However, as mentioned above, the only mention of the NIC in Tillier fails to disclose one-shot initiation and completion processes of an RDMA operation between the driver and the NIC of the host. Further, "the use of RDMA to transfer data **between a host and I/O device**" does not teach one-shot initiation and completion

processes of an RDMA operation **between the driver and the NIC of the host**. Additionally, the cited section of Tillier that allegedly discloses "a one-shot (using a single command initiation, then without subsequent host interruptions until the transfer is completed) initiation [or completion] process of an RDMA operation" (Final Office Action, Page 19) states the following:

> The new architectures also allow remote direct memory access so that one device is able to push data across a network into a shared buffer pool of another device and direct data into and from the device's memory. This feature facilitates new message passing standards which pass **high level operation messages between the host CPU and I/O unit processor** so that the I/O unit processor handles the command and processes it fully, thereby allowing the host CPU to perform processing for other operations.

(Tillier, Column 3, Lines 43-51 (emphasis added)). However, the cited section of Tillier discloses "new message passing standards which pass high level operation messages between the host CPU and I/O unit processor." (Tillier Column 3, Lines 47-49). Sending high level operation messages between the host CPU and I/O unit are different than "a one-shot initiation [completion] process of an RDMA operation is performed between the driver and the NIC of the host" at least because (1) the high level operation messages passed between the host CPU and I/O unit are not initiation and completion processes, and (2) the cited section discusses messages passed between the host CPU and I/O unit, not the driver and the NIC of the host. Further, **even though Tillier discloses that the NIC acts as an intermediary between the devices and the network, such high level operation messages (even when sent from the device to the NIC or from the NIC to the device) are not initiation and completion processes**, let alone "a one-shot initiation [completion] process of an RDMA operation is performed between the driver and the NIC of the host," as set forth in independent claims 1 and 17. Because the Office Action has failed to show "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" as required for an anticipation rejection under MPEP 2131, the rejections under 35 U.S.C. § 102(e) cannot be maintained.

Therefore, for at least the above stated reasons, Applicant respectfully submits that the Tillier reference fails to teach, suggest, or disclose Applicant's invention as set forth in claims 1

and 17. The Applicant believes that claims 1 and 17 are allowable over Tillier. Applicant respectfully submits that claims 1 and 17 are independent claims, and that claims 2-16 and 18-23 depend either directly or indirectly from independent claims 1 and 17, respectively. Because claims 2-16 and 18-23 depend from claims 1 and 17, respectively, Applicant respectfully submits that claims 2-16 and 18-23 are allowable over the Tillier reference, as well. The Applicant respectfully requests, therefore, that the rejection of claims 1-5, 10, 16-18, 20, 22 and 23 under U.S.C. §102(e), be withdrawn.

Rejections Under 35 U.S.C. §103(a) – Tillier in view of Roach

Claims 6-9, 11-15, 19, 24 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tillier in view of Roach et al. (U.S. Patent No. 6,421,742, hereinafter "Roach"). The Applicant respectfully traverses the rejection for at least the following reasons.

Regarding claims 24 and 25, Applicant respectfully submits that the proposed combination of references fails to teach, suggest, or disclose at least, for example, "initiating an RDMA write operation using a one-shot initiation process between a driver and a NIC of a host," as set forth in Applicant's independent claim 24; and "completing an RDMA write operation using a one-shot completion process between a NIC and a driver of a host," as set forth in Applicant's independent claim 25.

The combination of Tillier and Roach is different than Applicant's independent claims 24 and 25 at least because Roach fails to remedy the deficiencies of Tillier. Tillier discloses "a method of transferring data to or from an input/output unit **across a network** emulates a message passing protocol. **A message sent from a host device to the input/output unit** specifies the requested data transfer and is formatted in accordance with the message passing protocol." (Tillier, Abstract). Roach discloses "[a] communication processor sends and receives frames of data and commands. Transmit and receive protocol engine is controlled by host driver software which utilizes predetermined bits to indicate which frame is the last frame in a series of frames.

This information is then placed in the transmit frame before it is sent." (Roach, Abstract). Tillier alone, Roach alone, and the combination of Tillier and Roach fail to disclose "initiating [completing] an RDMA write operation using a one-shot initiation [completion] process between a driver and a NIC of a host," as set forth in Applicant's independent claims 24 and 25.

Claims 6-9 and 11-15, and 19 depend, respectively, from independent claims 1 and 17. Applicant believes that claims 1 and 17 are allowable over the proposed combination of references, in that Roach fails to overcome the deficiencies of Tillier, for at least the reasons set forth above. Because claims 6-9 and 11-15, and 19 depend, respectively, from independent claims 1 and 17, Applicant respectfully submits that claims 6-9, 11-15 and 19 are allowable over the proposed combination of Tillier and Roach, as well. Therefore, for at least the reasons set forth above, Applicant respectfully requests that the rejection of claims 6-9, 11-15, 19, 24 and 25 under 35 U.S.C. §103(a) be withdrawn.

Rejections Under 35 U.S.C. §103(a) – Tillier in view of Futral

Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tillier in view of Futral et al. (U.S. Patent No. 5,991,797, hereinafter "Futral"). The Applicant respectfully traverses the rejection for at least the following reasons. Claim 21 depends from independent claim 17. Applicant believes that claim 17 is allowable over the proposed combination of references, in that Futral fails to overcome the deficiencies of Tillier, for at least the reasons set forth above. Because claim 21 depends from independent claim 17, Applicant respectfully submits that claim 21 is allowable over the proposed combination of Tillier and Futral, as well. Therefore, for at least the reasons set forth above, Applicant respectfully requests that the rejection of claim 21 under 35 U.S.C. §103(a) be withdrawn.

Final Matters

The Office Action makes various statements regarding former claims 1-25, 35 U.S.C. § 102(e), 35 U.S.C. § 103(a), the Tillier reference, the Roach reference, the Futral reference, one skilled in the art, etc. that are now moot in view of the previously presented amendments and/or arguments. Thus, the Applicants will not address all of such statements at the present time. However, the Applicants expressly reserve the right to challenge such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a rejection of any current or future claim).

Applicant reserves the right to argue additional reasons supporting the allowability of claims 1-25 should the need arise in the future.

CONCLUSION

Applicant respectfully submits that claims 1-25 are in condition for allowance, and requests that the application be passed to issue.

Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Please charge any required fees not paid herewith or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Date: _April 18, 2008_   Respectfully submitted,

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